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in use for over twenty years that were never painted. They were light, strong and very durable.

Since reading the letter referred to I have put a string around a venerable tree of the *Sassafras officinale* growing near and found its girth two feet from the ground to be 130 inches, or a diameter of 43 inches—certainly a quite dignified tree. This stands in the open field and is as broad and spreading as an oak in the same circumstances. It is very picturesque and greatly admired by all lovers of fine trees. I have known it for fifty years, and men that were old when I first knew it told me that it was just as large ever since they knew it as boys, so it would seem that the memory of man runs not back when it was not a respectable tree.

I am a great admirer of the sassafras as an ornamental tree and think the example of the English, who are quick to see beauty in our forest trees, may well be copied in planting this tree. There is only one drawback; it is apt to sucker from the roots, although the one above referred to never does.

On the North Necks of this island are many large trees of the kind, but none I know quite so large in trunk, though much taller.

N. HALLOCK.

Queens, L. I., Jan. 21, 1894.

A Brilliant Meteor.

LET me, in the hope of securing other accounts of the same phenomenon, report a remarkably fine meteor just seen by me.

As I, with a large number of other persons, was leaving the train at Newtonville at twelve minutes past six o'clock this evening a very brilliant meteor was seen to fall in the western sky.

We were looking directly west. The sky was absolutely cloudless, and the full moon was perhaps an hour high and, of course, at our backs. The meteor very much resembled a rocket or perhaps more strictly a large fire ball from a Roman candle. It came down the sky at an angle of about 45 degrees and from a point in the northwest perhaps 40 degrees above the horizon, where it first attracted our attention. It gave off many sparks and fiery streaks, which, however, remained visible in the bright moonlight but an instant. Its color was variously reported as white, blue and bluish-white. It seemed to me to be yellowish-white. It disappeared behind some buildings or a group of trees and still at full brilliancy and perhaps from 5 to 10 degrees from the horizon. From the hour at which the fall occurred and the remarkable and crystalline clearness of the sky, I am hopeful that it was observed and will be reported by many others, and that the falling body may have reached the earth before it was entirely consumed.

I have given the best judgments I can of distances in terms of degrees, but am aware that these may not be very accurate. My own impression was that the meteor was visible 5 or 6 seconds, but my nearest companion thought the time was fully 10 seconds.

The apparent rate of movement was that of a rocket after its culmination but before it has fallen very far, i.e., the motion was slow as compared with that of many "shooting stars."

C. H. AMES.

Newtonville, Mass., Jan. 19, 1894.

The Erilepidinae.

IN my recently published "Families and Subfamilies of Fishes" (p. 135) appears the family *Anoplopomidae* with the subfamilies *Erilepidinae* and *Anoplopominae*. In answer to a question, what is the former (and which may be repeated), I would state that *Erilepidinae* is a subfamily for *Erilepis*,

and that the generic name is simply a substitute for *Myriolepis* of Lockington. Lockington's name was given in 1880, but Egerton, in 1864, gave the same name to a Triassic genus of palaeoniscoid fishes, and consequently another has to be supplied for Lockington's genus.

The *Anoplopomidae* are closely related to the *Hexagrammidæ* but appear to me to be sufficiently distinct. *Erilepis* (= *Myriolepis* Lock.) is most nearly related to *Anoplopoma*, and both undoubtedly belong to the same family. *Erilepis* is not closely related to *Agrammus*, with which it has been associated.

Myriolepis (Egerton) has been well differentiated by A. S. Woodward in the second volume of his "Catalogue of the Fossil Fishes" (pp. 430-515).

THEO. GILL.

Washington, D. C.

Fungi and Insects.

IN a late number of *Science* (No. 556, pp. 218, 219) Professor McCarthy discusses, under the head of "Fungi versus Insects," methods which have recently been largely used for the prevention of insect and fungous depredations. He seems to decry especially the use of fungicides, believing that they lead to more slovenly methods of cultivation and a neglect of hygienic plant conditions. The modern tendency is to prevent diseases rather than to await their coming and then cure them; and Professor McCarthy seems to be arguing against one of the most potent agents which science has called to the aid of the agriculturist. There is no one to defend the practice of some grape-growers of using copper preparations so freely as to "plaster" the fruit with chemicals. The fault lies not with the remedy but with the method of applying it. If the directions given in every bulletin on fungicides be followed, there is no reason for having the fruit coated or even spattered with copper. Neither does it seem any argument in favor of abandoning the use of fungicides because they still cause a loss of \$300,000,000 a year! The question of course is, how much greater would the loss have been if fungicides had not been used at all. It has been shown in a recent bulletin of the Department of Agriculture¹ that over \$30,000 was saved by only 250 growers in treating diseases of the grape alone. Other experiments have shown that many other diseases, such as apple scab, potato blight or rot, strawberry blight, etc., can be entirely prevented by the proper use of copper or other preparations. Furthermore, the argument advanced that, because the labor of one man or of two men can be vitiated by the lack of attention of a third, no good has resulted, is certainly fallacious.

It is difficult to see how "pathogenic, contagious disease-producing fungi or bacteria" can remedy matters very much as far as fungous diseases are concerned. It is scarcely probable that methods which are applicable for the destruction of insect enemies to plants, such as micro-organisms, can be used with success to destroy the fungi that may attack the same plants. While "an automatic antipest destroying agent" would be a good thing, supposing such a thing to exist, would the slovenly farmer become any less slovenly through its use? Or would the careful farmer be any less or any more careful? The investigations of Professor Forbes in Illinois and Professor Snow in Kansas have been instrumental in decreasing the ravages of the chinch bug and saving large sums of money to the farmer. These experiments have not, however, proceeded far enough to enable us to congratulate ourselves that we will be able to supply the necessary ammunition to destroy all noxious insects. Let us hope it will be

¹Bull. No. 3, Div. of Veg. Path., p. 69.